

WHAT IS CLAIMED IS

1. A liquid crystal display device comprising:

an active matrix substrate on which a large number of gate lines and a large number of drain lines which cross each other, switching elements which are formed at respective crossing portions of the gate lines and the drain lines in a matrix array, pixel electrodes which are driven by the switching elements and counter electrodes which drive liquid crystal using an electric field generated between the counter electrodes and the pixel electrodes are formed; and

another substrate which faces the active matrix substrate by way of a liquid crystal layer, wherein

the counter electrode is arranged above the drain line and is overlapped to the drain line by way of an insulation layer,

the counter electrode has a region having a width larger than a width of the drain line, and

the counter electrode has a groove which is recessed along the extending direction of the drain line between an end periphery of the counter electrode and the drain line.

2. A liquid crystal display device according to claim 1, wherein the grooves are formed at both sides of the drain line.

3. A liquid crystal display device comprising:

an active matrix substrate on which a large number of

gate lines and a large number of drain lines which cross each other, switching elements which are formed at respective crossing portions of the gate lines and the drain lines in a matrix array, pixel electrodes which are driven by the switching elements and counter electrodes which drive liquid crystal using an electric field generated between the counter electrodes and the pixel electrodes are formed; and

another substrate which faces the active matrix substrate by way of a liquid crystal layer, wherein

the counter electrode is arranged above the gate line and is overlapped to the gate line by way of an insulation layer,

the counter electrode has a region having a width larger than a width of the gate line, and

the counter electrode has a groove which is recessed along the extending direction of the gate line between an end periphery of the counter electrode and the gate line.

4. A liquid crystal display device according to claim 3, wherein the liquid crystal display device includes counter electrode lines which are arranged close to the gate lines,

the groove is formed at a pixel electrode side with respect to the gate line, and

the counter electrode and the counter electrode line are overlapped to each other at a side opposite to the pixel electrode with respect to the gate line.

5. A liquid crystal display device according to claim

1, wherein the liquid crystal display device includes a shielding electrode which is disposed below the drain line and is positioned below the groove formed in the counter electrode.

6. A liquid crystal display device according to claim 5, wherein the shielding electrode is connected to the counter electrode line.

7. A liquid crystal display device comprising:

an active matrix substrate on which a large number of gate lines and a large number of drain lines which cross each other, switching elements which are formed at respective crossing portions of the gate lines and the drain lines in a matrix array, pixel electrodes which are driven by the switching elements and counter electrodes which drive liquid crystal using an electric field generated between the counter electrodes and the pixel electrodes are formed; and

another substrate which faces the active matrix substrate by way of a liquid crystal layer, wherein

grooves which are recessed to the side of lower layer are formed in either one or both of the pixel electrode and the counter electrode along the extending direction of the electrodes.

8. A liquid crystal display device according to claim 7, wherein an orientation film is formed on either one or both of the pixel electrode or the counter electrode having the grooves, and a film thickness of the orientation film at a center

portion of the groove is set larger than a a film thickness of the orientation film at flat end portions of the electrode.

9. A liquid crystal display device according to claim 7, wherein the electrode having the groove is formed by way of an insulation layer formed above the drain electrode, the groove is formed between the drain electrode and the electrode, an orientation film is formed over the electrode, and a film thickness of the orientation film at a center portion of the groove is set larger than a film thickness of the orientation film at end portions of the electrode.

10. A liquid crystal display device according to claim 7, wherein the electrode is a transparent electrode and the liquid crystal display device performs a display in a normally black mode.

11. A liquid crystal display device according to claim 10, wherein a metal layer is formed between the groove and the orientation film.

12. A liquid crystal display device according to claim 2, wherein the liquid crystal display device includes a shielding electrode which is disposed below the drain line and is positioned below the groove formed in the counter electrode.